

Improving Birth Control Service Utilization By Offering Services Prerelease Vs Postincarceration

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Unintended pregnancies are an important and costly public health problem in the United States, and research has shown that poor and medically underserved women are disproportionately affected.¹ Incarcerated women who are released into the community are also at particularly high levels of risk for unintended pregnancies. Multiple studies have linked the extensive histories of alcohol abuse, illicit substance use, and commercial sex work that lead to incarceration among these women to elevated risks of reproductive health problems, including increased rates of sexually transmitted infections, HIV, and high-risk, unplanned pregnancies with poor outcomes.²⁻⁶

Among incarcerated women, pregnancies are high risk for several reasons. One is that many of these women lack or fail to use prenatal care services. Another is that use of drugs among these women frequently leads to preterm deliveries, spontaneous abortions, low-birthweight infants, and preeclampsia. Moreover, their high rates of psychiatric illness often result in exposure of the fetus to teratogenic medications during treatment, and their alcohol use may cause fetal alcohol syndrome.⁷⁻¹⁰ At any given time, between 6% and 10% of incarcerated women are pregnant; however, it is unknown what proportion of these pregnancies are unplanned or unwanted.¹¹

Several studies have highlighted the negative consequences of unplanned and unwanted pregnancies, emphasizing the importance of helping women plan their pregnancies. Bustan and Coker found that infants were twice as likely to die when mothers reported their pregnancy as unwanted during the first trimester.¹² In addition to increased infant death rates, higher rates of child abuse and neglect have also been associated with unintended pregnancies.¹³

There is scant literature on contraceptive services for incarcerated women. Because this

Objectives. We examined whether incarcerated women would substantially increase birth control initiation if contraceptive services were available within the prison compared with after their release back into the community.

Methods. During phase 1 of the study, a nurse educator met with women at the Rhode Island Adult Correctional Institute and offered them referrals for contraceptive services at a community health clinic after their release. During phase 2, contraceptive services were offered to women during their incarceration.

Results. The majority of the participants (77.5%) reported a desire to initiate use of birth control methods. Within 4 weeks of their release, 4.4% of phase 1 participants initiated use of a contraceptive method, compared with 39.1% of phase 2 participants (odds ratio [OR] = 14.6; 95% confidence interval [CI] = 5.5, 38.8).

Conclusions. Provision of contraceptive services to women during their incarceration is feasible and greatly increases birth control initiation compared to providing services only in the community. (*Am J Public Health.* 2006;96:840-845. doi:10.2105/AJPH.2005.062869)

population is at high risk of unplanned and complicated pregnancies, it is important to understand how to increase contraceptive use in accordance with conception desires. We examined the effects of expanding the availability of contraceptive services on use of contraceptives, hypothesizing that there would be a substantial increase in service utilization if services were made available before as opposed to after women's release from prison.

METHODS

Study Site

The Rhode Island Adult Correctional Institute (ACI), a unified correction system serving as a combined prison and jail, holds all pre-trial and sentenced inmates in the state. The ACI's average daily population is 200, and most of the women housed there have been charged with nonviolent crimes (48%) or drug offenses (31%). Approximately 69% of the women incarcerated at the ACI return to the community within 4 days.

Title X Program

Title X programs are federally funded programs designed to provide family planning

and reproductive health services to the poor and underserved. The Title X program under evaluation here employs 1 full-time registered nurse educator and 1 part-time nurse practitioner to address the reproductive health needs of women leaving prison. The nurse educator divided her time between the community health center (CHC) and the ACI, creating a linkage between incarcerated women and available comprehensive primary care services. She provided education on family planning, reproductive health, cancer screening, self-administered breast examinations, and prevention of sexually transmitted infections. Incarcerated women were referred to a physician after being seen by the nurse educator.

At the time of their release, women were offered a follow-up appointment at the CHC and made aware of arrangements for no-cost transportation to that appointment. Women who were not interested in family planning were encouraged to follow up at the CHC for other health services. During their initial visit to the CHC, former inmates were seen by the same nurse educator and were then examined by the nurse practitioner, who provided follow-up reproductive health services

(Papnicolaou tests, screening for sexually transmitted diseases, and birth control prescriptions or refills).

The goal of this study was to evaluate 2 sequentially offered family planning service delivery systems. Phase 1 began in June 2002 and included all study participants released before February 28, 2003. During this period, family planning methods were available without charge at the CHC; however, as a result of correctional system restrictions, contraceptives could not be prescribed within the prison at that time.

Phase 2 began on March 1, 2003, when contraceptive services became available to women before their release from prison. This phase included all participants released through July 15, 2004. Participants in both phases had access to the ACI nurse educator and women's division physician and were offered an appointment at the CHC within 2 weeks of their release. We were unable to implement a randomized controlled trial because study participation might have been considered coercive if birth control were offered only within the prison to women taking part in the study. Hence, we took advantage of a planned change in protocol.

Sample and Procedures

Women entering the ACI between June 2002 and December 2003 were recruited from both the sentenced population and those awaiting trial. Research assistants reviewed "traffic sheets" (daily printouts on all female inmates committed to or released from the prison) daily each Monday (which included "traffic" that had occurred during the weekend period) through Friday and attempted to contact the women included in these listings. To be eligible for the study, women were required to (1) be able to adequately communicate in English, (2) not be housed in segregation, (3) be 18 to 35 years of age, (4) have no history of a tubal ligation or hysterectomy, (5) have been sexually active with a man in the 3 months before being incarcerated, (6) not be pregnant, (7) have no plans to conceive in the upcoming 6 months, and (8) be competent to complete the informed consent process. Two hundred twenty-four women met these criteria and agreed to participate.

Women between the ages of 15 and 44 years are at the highest risk for pregnancy.¹⁴ However, for the purposes of this study, women who were between 18 and 35 years of age were targeted, given that most pregnancies and abortions involve women in their 20s and early 30s.¹⁵ In addition, this age group was chosen because women older than 35 years are more likely than younger women to have had a tubal ligation or to have a partner who has had a vasectomy.¹⁶

Participants completed 45-minute face-to-face interviews conducted by female research interviewers trained in the appropriate confidentiality and interview procedures. During the recruitment period, there were 3549 incarcerations involving 2298 women (1251 represented multiple incarcerations of the same woman). A total of 707 women were released before being approached for recruitment, 803 were not eligible because they were older than 35 years, and 409 were ineligible for other reasons (as described earlier). Of the remaining 379 women, 155 declined to participate; 224 completed a baseline interview, yielding a participation rate of 59%. Phase 1 included the first 119 participants enrolled. An additional 105 women participated in phase 2 of the evaluation.

Measures

Demographic measures assessed included age, race/ethnicity, education level, living situation, health insurance status, and incarceration history. Recent substance use was defined as any use of heroin, nonprescribed opiates, or cocaine in the 90 days before incarceration. Women reporting that they had consumed alcohol to a level of intoxication 3 or more times in the past 90 days were categorized as heavy alcohol users. Childhood sexual abuse was defined as any sexual abuse occurring before the age of 16 years.

Data gathered on sexual history included number of sexual partners in the previous 3 months and history of sexually transmitted infections. Data on reproductive history included history of pregnancies and unplanned pregnancies, age at first pregnancy, and history of pregnancy termination. Information on contraceptive history was ascertained via women's self-reports of having always used birth control (excluding

condoms) during vaginal sex in the 3 months before their incarceration (consistent birth control users) and their self-reports of having always used condoms during that time period (consistent condom users). Inconsistent birth control users were defined as those who had not continuously used birth control methods or had not used condoms for every episode of vaginal sex in the previous 3 months.

Participants were categorized as "wanting a birth control method now" if they indicated strong agreement on a 6-point Likert scale (1 = strongly disagree, 6 = strongly agree) with the statement "I want to start (or continue) a birth control method now or in the near future." Two items were used to assess pregnancy attitudes: "I want to be pregnant now" and "I would be very upset if I were pregnant now." Again, participants rated these items on a 6-point Likert scale (1 = strongly disagree, 6 = strongly agree). "Negative pregnancy attitudes" were defined as strong or moderate disagreement with "I want to be pregnant now" and strong or moderate agreement with "I would be very upset if I were pregnant now."

Initiation of birth control use was determined through chart reviews at the prison and at the CHC. Participants were considered to have initiated birth control if they were given Depo-Provera, had an intrauterine device inserted, or were prescribed an oral or transdermal hormonal contraceptive. Because consistent condom use could not be reliably assessed via chart review (in that it was rarely documented in medical records), it was not considered as indicating birth control initiation. In follow-up interviews conducted 3 months after their release, women were asked whether they had continued to use their birth control method and where they had obtained the form of contraceptive they were using. This information was verified through chart reviews only among women receiving services at the ACI or CHC.

Data Analysis

Crude odds ratios (ORs) and their associated 95% confidence intervals (CIs) were calculated to compare baseline characteristics of phase 1 and phase 2 participants. To

obtain adjusted odds ratios for birth control initiation among phase 1 and phase 2 participants, we conducted a logistic regression analysis in which we controlled for baseline variables that differed significantly between

the 2 study phases at $P < .10$. Finally, we calculated crude odds ratios and 95% confidence intervals to determine predictors of initiating birth control among phase 2 participants.

RESULTS

The mean age of the participants was 25 years. As can be seen in Table 1, the racial/ethnic characteristics of the sample were similar in phase 1 and phase 2. The results indicated that phase 2 participants were more likely to have a high-school diploma (OR = 2.2) and to have experienced childhood sexual abuse (OR = 2.1) than phase 1 participants. The majority of the women reported no health insurance coverage, a history of unplanned pregnancies, negative attitudes toward pregnancy, and a desire to initiate or continue use of a contraceptive method.

Phase 2 participants were 14.6 (95% CI = 5.5, 38.8) times more likely to initiate birth control than were phase 1 participants (39.1% vs 4.2%; Table 2). After control for variables that differed between phase 1 and phase 2 (education level, homelessness, childhood sexual abuse, previous pregnancy termination, and number of partners in the past 3 months), phase 2 participants were 20.7 (95% CI = 6.5, 66.0) times more likely than phase 1 participants to have initiated use of a contraceptive method. An analysis restricted to women who indicated a desire to initiate birth control use showed that 5.6% of phase 1 and 47.0% of phase 2 participants initiated use (OR = 16.0; CI = 5.9, 43.4). Among participants in the 2 phases combined, 50% chose oral contraceptive pills, 48% chose Depo-Provera, and 2% chose intrauterine devices.

Among women recruited in phase 2 (Table 3), wanting to initiate use of a birth control method and being homeless were predictive of birth control initiation (ORs = 8.9 and 4.2, respectively). Non-Hispanic White women, women released within 7 days of their initial incarceration, and women living with a primary sexual partner were less likely to initiate a contraceptive method (ORs = 0.41, 0.23, and 0.26, respectively).

Follow-up data were available for 32 of the 46 women (70%) who initiated use of a birth control method. Eighteen women, 4 from phase 1 and 14 from phase 2, continued to use their contraceptives. Of these 18 women, 6 received services at the CHC, 5 received services at the ACI during repeat incarcerations, and 7 reported receiving services from

TABLE 1—Demographic, Psychosocial, and Behavioral Characteristics, by Intervention Group: Rhode Island Adult Correctional Institute Respondents, 2002–2004

	Phase 1 ^a Participants (n = 119), No. (%)	Phase 2 ^b Participants (n = 105), No. (%)	Odds Ratio (95% Confidence Interval)
Sociodemographic characteristics			
Race/ethnicity			
White	67 (57.8)	53 (53.0)	0.82 (0.48, 1.41)
Other	49 (42.2)	47 (47.0)	
Religion			
Catholic	50 (42.0)	42 (41.2)	0.97 (0.56, 1.65)
Other	69 (58.0)	60 (58.8)	
Educational level			
Less than high school	60 (50.9)	33 (32.4)	
High school or more	58 (49.1)	69 (67.6)	2.16 (1.25, 3.75)*
Homeless	25 (21.0)	13 (12.4)	0.53 (0.26, 1.10)
No health insurance	68 (57.6)	62 (60.2)	1.11 (0.65, 1.90)
Released within 7 days of incarceration	38 (32.5)	29 (27.6)	0.79 (0.45, 1.41)
Previous incarceration	78 (65.6)	62 (59.1)	0.76 (0.44, 1.30)
Drug or alcohol use in past 90 days	84 (70.6)	74 (70.5)	0.99 (0.56, 1.77)
Childhood sexual abuse	38 (32.8)	53 (51.0)	2.13 (1.24, 3.68)*
Sexual/pregnancy characteristics			
No. of sexual partners in past 3 mo			
1	49 (48.5)	60 (62.5)	
>1	52 (51.5)	36 (37.5)	0.64 (0.36, 1.12)
Lives with main/steady partner	26 (23.0)	18 (18.4)	0.75 (0.38, 1.48)
Pregnancy history			
Previous pregnancy	93 (78.2)	77 (73.3)	0.77 (0.42, 1.42)
Previous unplanned pregnancy	77 (64.7)	68 (64.8)	1.00 (0.58, 1.74)
Previous pregnancy termination	34 (28.6)	41 (39.1)	1.60 (0.92, 2.80)
Perceives chance of becoming pregnant in next 6 mo	51 (42.9)	38 (36.2)	0.76 (0.44, 1.30)
History of sexually transmitted disease	64 (53.8)	60 (57.1)	1.15 (0.68, 1.94)
Negative pregnancy attitude	61 (51.3)	59 (56.2)	1.22 (0.72, 2.07)
Contraceptive use			
Always used condoms in previous 3 mo	20 (19.8)	21 (21.9)	1.13 (0.57, 2.26)
Always used other type of birth control in previous 3 mo	10 (9.9)	8 (8.3)	0.83 (0.31, 2.19)
Wants to initiate (or continue) use of birth control method	90 (76.3)	83 (79.1)	1.17 (0.62, 2.21)

Note. Mean ages were 24.7 years (SD = 5.11) for phase 1 participants and 25.0 years (SD = 4.97) for phase 2 participants ($P = .691$). In both groups, mean age at first pregnancy was 17 years.

^aBirth control available at community clinic.

^bBirth control available at prison.

* $P < .05$ (comparison of phase 2 with phase 1).

TABLE 2—Initiation of Birth Control, by Intervention Group: Rhode Island Adult Correctional Institute Respondents, 2002–2004

	Phase 1 ^a Participants, No. (%)	Phase 2 ^b Participants, No. (%)	OR (95% CI)	Adjusted ^c OR (95% CI)
Initiated use of a contraceptive method within 4 weeks of release	5 (4.2)	41 (39.1)	14.61 (5.50, 38.82)*	20.66 (6.47, 65.96)*
Reported desire to initiate use of a contraceptive method and did so within 4 weeks of release	5 (5.6)	39 (47.0)	15.95 (5.87, 43.36)*	19.34 (6.01, 62.22)*

Note. OR = odds ratio; CI = confidence interval.

^aBirth control available at community clinic.

^bBirth control available at prison.

^cAdjusted for education, homelessness, childhood sexual abuse, previous pregnancy termination, and number of partners in previous 3 months.

* $P < .05$.

other sites. An additional 10 women initiated birth control during a subsequent incarceration in phase 2 of the evaluation.

DISCUSSION

Offering contraceptive services within a correctional setting led to a much higher rate of initiating birth control than solely connecting women to free contraceptive services in the community (39.1% vs 4.4%). The prevalence of a history of unintended pregnancies was high (82.9%) in our sample, and 32.0% of the participants reporting having had at least 1 abortion. These results have immediate public health implications given that approximately 39 million women in the United States, 90% of whom are using some form of contraception, are at risk of unplanned pregnancies.¹⁷ Women using contraception are at risk for unplanned pregnancies if they are using their contraceptive method inconsistently or incorrectly. In our study, in which all of the women recruited were at risk of an unplanned pregnancy, only 9.6% had consistently used condoms over the previous 3 months, and only 3.7% had used some other form of contraceptive.

Although almost 80% of phase 2 participants expressed a desire to initiate use of a birth control method, only 47% of these women did so. We did not specifically evaluate reasons for non-initiation, but they proba-

bly included release from prison before a physician visit, presence of medical conditions that precluded use of hormonal birth control methods, and lack of desire to begin birth control during incarceration. Only 12.2% of those initiating birth control were released within 7 days, compared with 37.5% of those not initiating birth control (OR = 0.23; Table 3).

Another possible reason why women did not initiate use of a birth control method is that they believed they would be unlikely to engage in sexual activity in the near future because of their sentencing. This reason is the most difficult to address. Women may anticipate a sentence of several months but then may be released during their court appearance and not sentenced, they may be released to a substance abuse treatment facility, or they may receive an early parole. Thus, there is a constant need to balance likelihood of release with premature initiation of a contraceptive method. In the case of women who are released before being seen by a physician, the process could be streamlined so that all of those interested in initiating contraceptive use would immediately receive a full family planning assessment from a nurse and then obtain an immediate referral to a physician. In the future, we plan to work more with the courts and rehabilitative centers to ensure that all women who want to initiate or continue use of contraceptives are able to do so.

The practice of contraception involves a complex set of behaviors, attitudes, and possible barriers. During phase 2 of the study, Title X services removed major structural barriers to contraceptive use: There was no financial cost to the women, there was no need to schedule a gynecological appointment, and there were no transportation or child-care impediments. Participants in this phase were 20.7 times more likely to initiate use of a contraceptive method than phase 1 participants after control for population differences across the 2 time periods. Simply making contraceptive services freely available in the community during phase 1 was insufficient to engage large numbers of women in contraceptive services.

Kouzi et al., in a study of injection drug users in New York City, found that being Hispanic, married, and homeless were associated with decreased contraceptive use.¹⁸ In our study, we found that women who were monogamous and lived with their sexual partner were less likely to initiate birth control. However, we also found that homeless women were more likely to initiate use of a contraceptive method. It is possible that homeless women who are incarcerated are more likely to initiate birth control because the structural barriers to reproductive health services that are insurmountable outside of prison have been removed.

In a study of chronically homeless women, Wenzel et al. found that problems associated with accessing and using contraceptives included cost and lack of knowledge about where to obtain contraceptives and how to use them.¹⁹ The Title X program within the study prison addressed these issues by having a nurse educator meet with women to explain contraceptive options and how contraceptives are used. In addition, during phase 2, contraceptives were provided within the prison, thus requiring little organization or effort by the client. This approach also allows women to make a contraceptive choice free of the influence of drugs or alcohol and, in some cases, independent of an abusive partner. Finally, after women are released back to the community, they typically have competing needs (e.g., housing, food, family reintegration) that take priority over family planning considerations.

TABLE 3—Determinants of Contraceptive Initiation: Rhode Island Adult Correctional Institute Respondents, 2002–2004

	Initiated Use of a Contraceptive Method (n = 41), No. (%)	Did Not Initiate Use of a Contraceptive Method (n = 64), No. (%)	OR (95% CI)
Sociodemographic characteristics			
Race/ethnicity			0.41 (0.18, 0.94)*
White	15 (39.5)	38 (61.3)	
Other	23 (60.5)	24 (38.7)	
Religion			0.55 (0.24, 1.25)
Catholic	13 (32.5)	29 (46.8)	
Other	27 (67.5)	33 (53.2)	
Education			0.99 (0.42, 2.31)
Less than high school	13 (32.5)	20 (32.3)	
High school or above	27 (67.5)	42 (67.7)	
Homeless	9 (22.0)	4 (6.3)	4.22 (1.20, 14.78)*
No health insurance	25 (62.5)	37 (58.7)	1.17 (0.52, 2.64)
Released within 7 days of incarceration	5 (12.2)	24 (37.5)	0.23 (0.08, 0.67)*
Previous incarceration	21 (51.2)	41 (64.1)	0.59 (0.27, 1.31)
Drug or alcohol use in past 90 days	25 (61.0)	49 (76.6)	0.48 (0.20, 1.12)
Sexual/pregnancy history			
No. of sexual partners in past 3 mo			1.55 (0.67, 3.58)
1	22 (56.4)	38 (66.7)	
>1	17 (43.6)	19 (33.3)	
Lives with primary/steady partner	3 (7.9)	15 (25.0)	0.26 (0.07, 0.96)*
Pregnancy history			
Previous pregnancy	28 (68.3)	49 (76.6)	0.66 (0.27, 1.58)
Previous unplanned pregnancy	23 (56.1)	45 (70.3)	0.54 (0.24, 1.22)
Past pregnancy termination	15 (36.6)	26 (40.6)	0.84 (0.38, 1.89)
Perceives chance of becoming pregnant in next 6 mo	14 (34.2)	24 (37.5)	0.86 (0.38, 1.96)
Negative pregnancy attitude	25 (61.0)	34 (53.1)	1.38 (0.62, 3.06)
Contraceptive use			
Always used condoms in past 3 months	11 (28.2)	10 (17.5)	1.85 (0.70, 4.90)
Always used other birth control in past 3 months	6 (15.4)	2 (3.5)	5.00 (0.95, 26.23)
Wants to initiate (or continue) use of birth control method	39 (95.1)	44 (68.8)	8.86 (1.95, 40.37)*

Note. OR = odds ratio; CI = confidence interval. Mean ages were 24.8 years (SD = 4.76) for women who initiated birth control and 25.1 years (SD = 5.13) for women who did not initiate birth control (OR = 0.99; 95% CI = 0.91, 1.07). *P < .05.

Our study involved several limitations. For example, much of the information we gathered was based on women's self-reports and is subject to all of the biases associated with self-reported data. However, the main outcome variable, initiation of use of a contraceptive method, was assessed through review of medical records. Although we were unable to determine whether women who had been prescribed birth control pills took

them regularly, 48% of contraceptive users received Depo-Provera and hence had protection for at least 3 months.

Our data indicate that incarcerated women are much more likely to initiate use of a birth control method if contraceptive services are made available to them while they are still in prison as opposed to being offered only after their release. Thus, given the risks of unplanned and high-risk pregnancies among

incarcerated women, we believe that pre-release reproductive health services should be made available in all American prisons and jails and that provision of these services has the potential to decrease the rates of such pregnancies. It is imperative in this setting that contraceptive services be offered on a voluntary basis and that options be made available to every woman. ■

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Contributors

J. G. Clarke originated the study, supervised all aspects of its implementation, and led the writing. C. Rosengard assisted in the analytic plan, supervised the research staff, and assisted in the writing. J. S. Rose completed and synthesized the analyses and contributed to the writing. M. R. Hebert interviewed study participants, conducted literature searches, and assisted with the writing. J. Peipert assisted in the development of the study as well as with article revisions. M. D. Stein supervised the research team in conducting the study and in preparing the article. All of the authors helped conceptualize ideas, interpret findings, and review drafts and revisions of the article.

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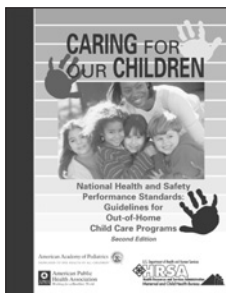
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Human Participant Protection

This study was approved by the Miriam Hospital (Providence, RI) institutional review board and the Office for Human Research Protections of the US Department of Health and Human Services. Also, a federal certificate of confidentiality was obtained before the initiation of data collection. Participants provided informed consent before any involvement in the study.

References

- Forrest JD. Epidemiology of unintended pregnancy and contraceptive use. *Am J Obstet Gynecol*. 1994;170:1485–1489.
- Codero L, Hines S, Shibley KA, Landon MB. Perinatal outcome for women in prison. *J Perinatol*. 1992;12:205–209.
- Deville KA, Kopelman LM. Moral and social issues regarding pregnant women who use and abuse drugs. *Obstet Gynecol Clin North Am*. 1998;25:237–254.
- Moos MK, Bangdiwala SI, Meihbom AR, Cefalo RC. The impact of a preconceptional health promotion program on intendedness of pregnancy. *Am J Perinatol*. 1996;13:103–108.
- Radecki SE, Bernstein GS. An assessment of contraceptive need in the inner city. *Fam Plann Perspect*. 1990;22:122–127.
- Crandall LA, Metsch LR, McCoy CB, Chitwood DD, Tobias H. Chronic drug use and reproductive health care among low-income women in Miami, Florida: a comparative study of access, need, and utilization. *J Behav Health Serv Res*. 2003;30:321–331.
- Broyles RW, McAuley WJ, Braid-Holmes D. The medically vulnerable: their health risks, health states, and use of physician care. *J Health Care Poor Underserved*. 1999;10:186–200.
- Mattson SN, Riley EP, Gramling L, Delis DC, Jones KL. Heavy prenatal alcohol exposure with or without physical features of fetal alcohol syndrome leads to IQ deficits. *J Pediatr*. 1997;131:713–721.
- Miller JM, Boudreaux MC, Regan FA. A case-control study of cocaine use in pregnancy. *Am J Obstet Gynecol*. 1995;172:180–185.
- Fogel CI. Pregnant inmates: risk factors and pregnancy outcomes. *J Obstet Gynecol Neonatal Nurs*. 1993;22:33–39.
- Women in Prison: Issues and Challenges Confronting US Correctional Systems*. Washington, DC: US General Accounting Office; 1999.
- Bustan MN, Coker AL. Maternal attitude toward pregnancy and the risk of neonatal death. *Am J Public Health*. 1994;84:411–414.
- Sable MR, Libbus M. Beliefs concerning contraceptive acquisition and use among low-income women. *J Health Care Poor Underserved*. 1998;9:262–275.
- National Survey of Family Growth, Cycle 6, 2002*. Washington, DC: US Dept of Health and Human Services; 2004.
- Sexual and Reproductive Health: Women and Men*. Washington, DC: Alan Guttmacher Institute; 2002.
- Contraceptive Use*. Washington, DC: Alan Guttmacher Institute; 2005.
- Piccinino LJ, Mosher WD. Trends in contraceptive use in the United States: 1982–1995. *Fam Plann Perspect*. 1998;30:24–29, 46.
- Kouzi AC, Des Jarlais DC, Tross S, Abdul-Quader A, Friedman SR. Contraceptive behavior among intravenous drug users at risk for AIDS. *Psychol Addictive Behav*. 1992;6:135–139.
- Wenzel SL, Leake BD, Barbara D, Anderson RM, Gelberg L. Utilization of birth control services among homeless women. *Am Behav Scientist*. 2001;45:14–34.



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